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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,317	10/20/2003	Max Safai	10030503-1	4136
57299	7590	06/28/2006	EXAMINER	
AVAGO TECHNOLOGIES, LTD.			NELSON, ALECIA DIANE	
P.O. BOX 1920				
DENVER, CO 80201-1920			ART UNIT	PAPER NUMBER
			2629	

DATE MAILED: 06/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/689,317	SAFAI ET AL.	
	Examiner	Art Unit	
	Alecia D. Nelson	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2 statements</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 4/21/05 and 2/23/06 has been considered by the examiner.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. **Claims 4 and 9** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. While the specification is enabling for describing how the components recited in the claims are connected, the specification is not enabling as to the actual operation and/or functionality of the components, specifically the claimed predictor, cross correlate and interpolator, in relation to how they assist the device in computing user position input data.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. ***Claims 1-3, 5-8, and 10-15*** are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Kramer (EP Patent No. 0 929 028).

With reference to **claims 1 and 6**, Kramer teaches a device comprising a mobile embedded device having a cursor manipulator (19) including, a sensing surface (21) operative to sense contact by the human finger (23), that contact corresponding to applied pressure, a pressure sensor array (27) disposed on the sensing surface, wherein a measurement of the plurality of pressure sensors corresponds to an image (see paragraphs 17-21); and an image detector, receiving images from the pressure sensor array, generating cursor manipulation corresponding to changes between the images (see paragraph 24).

With reference to **claims 2, 3, 7, and 8**, Kramer teaches that the cursor manipulation corresponds to planar directional movements and/or data entry (see paragraphs 19-20)

With reference to **claim 5**, Kramer teaches that the mobile embedded device is selected from a group comprising personal data assistants and cellular phones (see paragraph 18).

With reference to **claims 10-12**, Kramer teaches a method for finger navigation comprising sampling (scanning) a portion, wherein the portion is a subset and the subset is a periodic selection of pressure sensors, of the array (subset being the cells which are covered by the user's finger) of an array of pressure sensors to generate a first sample (see paragraph 22); re-sampling the portion of the array to generate a second sample (see paragraph 23); and comparing the first and second samples to determine navigational movement (see paragraphs 24-25).

With reference to **claim 14**, Kramer teaches that the region has an area comparable to a fingerprint (see paragraph 21)

With reference to **claim 15**, Kramer teaches that the subset further comprises a second region of pressure sensor (second location where user's finger is contacting the surface) (see paragraph 22-25).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. **Claims 4 and 9** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kramer in view of Miller et al. (U.S. Patent No. 5,841,078).

With reference to **claims 4 and 9**, Kramer teaches all that is required as explained above, and further teaches a controller (35); a multiplex driver (31, 33) transceiving data from the controller; an image array (27) receiving data from the multiplex driver (see paragraphs 21-24). Kramer also teaches the usage of output logic (39) for processing the sensed data (see paragraph 24), however fails to teach the logic includes sense amplifiers, a current read access memory; a reference RAM; a predictor; a cross-correlator; and a interpolator as recited in the claims. Kramer also fails to specifically teach the usage of a port transceiving data with the controller, however the examiner takes Official Notice that the usage of a port for transceiving data is well

known to one skilled in the art in portable or handheld devices similar to that which is taught by Kramer (see paragraph 17).

Miller et al. teaches the usage of sense amplifiers (32.1-32.6), connected to the image array, transceiving data from the controller (see column 7, lines 1-5); current read access memory connected to the sense amplifiers; reference RAM (38), connected to the current RAM; a predictor (40); a cross-correlator (58) receiving data from the current RAM, reference RAM, and the predictor; and a interpolator (60), receiving data from the cross-correlator, transmitting (42) data to the predictor and the controller (see Figure 2; column 7, lines 21-65)

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to allow the usage of components similar to that which is taught by Miller et al. to be used in the output logic contained within a device similar to that which is taught by Kramer in order to thereby provide accurate detection of the user input when operating the device.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alecia D. Nelson whose telephone number is 571-272-7771. The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on 571-272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

adn/ADN
June 23, 2006


KENT CHANG
PRIMARY EXAMINER